

REMARKS/ARGUMENTS

Applicant respectfully requests reconsideration and allowance of the subject application.

Claims 1-34 were originally presented.

Claims 35-41 were previously added.

Claims 2-3, 10-11, 23, 25, and 29-34 are canceled without prejudice.

Claim 42 is added.

Claims 1, 4-9, 12-22, 24, 26-28, and 35-42 remain in this application.

35 U.S.C. §103

Claims 1, 4-9, 12-15, 18-24, 26-28, and 35-41 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,614,914 to Rhoads et al (Rhoads) in view of U.S. Patent 6,449,378 to Yoshida et al (Yoshida). Applicant respectfully traverses the rejection.

Rhoads teaches a watermark system that includes an embedder, detector, and reader. The watermarking embedder encodes a watermark signal with a host signal to create a combined signal or watermarked signal. The detector looks for the watermark signal in a potentially corrupted version of the combined (watermarked) signal, and computes the watermark's orientation. A reader extracts a message in the watermark signal from the combined signal using the orientation to approximate the original state of the combined (watermarked) signal. (Abstract of Rhoads). A watermark can be viewed as an information signal that is embedded in a host signal, such as an image, audio, or some other media content. (Rhoads, col. 4. lines 52-54). The watermark may be comprised of one or more

1 signal components. Each watermark component may perform one or more
2 functions. Two primary functions include acting as an identifier to facilitate
3 detection and acting as an information carrier to convey a message. (Rhoads, col.
4 line 65 to col. line 3).

5 Fig. 1 of Rhoads shows signal processing operations involved in embedding
6 and reading the watermark signal. In embedding the watermark signal, there are
7 three primary inputs to the embedding process: the original, digitized signal 100,
8 the message 102, and a series of control parameters 104. (Rhoads, col. 6 lines 60-
9 64). The watermark embedding process 106 converts the message to a watermark
10 information signal. The watermark information signal is combined with the input
11 signal and possibly another signal (e.g., an orientation pattern) to create a
12 watermarked signal 108.

13 **Independent claim 1**, for example, recites "A method for concealing data
14 within a digital signal, the method comprising:

15 receiving a first data pattern of discrete values which are bits of a
16 watermark and a second data pattern of discrete values which are bits of a
17 covert message;

18 imposing a discrete value of the second data pattern over one or
19 more discrete values of the first data pattern to generate a third data pattern,
20 wherein the imposing is carried out by performing a Boolean operation with
21 a discrete value of the second data pattern and multiple discrete values of
22 the first data pattern;

23 processing the digital data signal into a series of bitframes, wherein
24 each bitframe includes a set of frames, and wherein each frame includes a
25 set of blocks; and

1 encoding the third data pattern into the digital signal, wherein a
2 different bit of the watermark is encoded in each frame of at least one
3 subject bitframe, and wherein a same bit of the covert message is encoded
4 in each frame of the subject bitframe.

5 The combination of Rhoads and Yoshida fails to teach or suggest the
6 method of claim 1. Rhoads teaches an input signal 100 (i.e., a digitalized signal).
7 The Action argues that Rhoads teaches that the message 102 are "bits of
8 watermark" that make up a first data pattern. A watermarked signal as taught in
9 Rhoads is watermarked signal 108. "A watermarked can be viewed as an
10 information signal that is embedded in a host signal, such as an image, audio, or
11 some other media content". (Rhoads, col. 4, lines 52-55). As defined by Rhoads
12 and is commonly known, there is no teaching or suggestion that the digitized
13 signal 100 is a watermark signal.

14 The Action goes on to present that the message 102 is "bits of a covert
15 message". A covert message is a hidden message, hence the term "covert". There
16 is no teaching or suggestion that the message 102 is hidden or covert. The
17 watermark embedding process 106 taught by Rhoads converts the message 102 to
18 a watermark information signal. It then combines this signal (the watermark
19 information that is derived from the message 102) and possibly another signal
20 (e.g., an orientation pattern) to create a watermarked signal 108. (Rhoads, col. 7,
21 lines 38-31).

22 Yoshida is cited as teaching "method and apparatus of embedding
23 watermark information in a moving image constituted by a plurality of frames
24 wherein one bit of the watermark information may be embedded one by one in
25

1 each frame"; however, Yoshida provides no assistance in light of Rhoads as to the
2 recited method of claim 1.

3 In view of the above, Rhoads in view of Yoshida does not teach or suggest
4 each and every element of claim 1. Thus, claim 1 is not obvious over the cited
5 combination. Applicant respectfully requests that the §103 rejection of claim 1 be
6 withdrawn.

7 **Dependent claims 4-7** are allowable at least by virtue of their dependency
8 on base claim 1. Applicant respectfully requests that the §103 rejection of claims
9 4-7 be withdrawn.

10 **Independent claims 9, 14, 18, 19, 20, 21, 22, 24, and 35** are rejected in the
11 Action based on similar arguments as presented in claim 1. Applicant presents the
12 arguments presented in claim 1 in support of claims 9, 14, 18, 19, 20, 21, 22, 24,
13 and 35. Rhoads in view of Yoshida does not teach or suggest each and every
14 element of claims 9, 14, 18, 19, 20, 21, 22, 24, and 35. Thus, claims 9, 14, 18, 19,
15 20, 21, 22, 24, and 35 are not obvious over the cited combination. Applicant
16 respectfully requests that the §103 rejection of claims 9, 14, 18, 19, 20, 21, 22, 24,
17 and 35 be withdrawn.

18 **Dependent claim 8** is allowable at least by virtue of its dependency on base
19 claim 18. Applicant respectfully requests that the §103 rejection of claim 8 be
20 withdrawn.

21 **Dependent claim 12** is allowable at least by virtue of its dependency on
22 base claim 9. Applicant respectfully requests that the §103 rejection of claim 12
23 be withdrawn.
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1 **Dependent claim 13** is allowable at least by virtue of its dependency on
2 base claim 19. Applicant respectfully requests that the §103 rejection of claim 13
3 be withdrawn.

4 **Dependent claim 15** is allowable at least by virtue of its dependency on
5 base claim 14. Applicant respectfully requests that the §103 rejection of claim 14
6 be withdrawn.

7 **Dependent claims 26-28** are allowable at least by virtue of their
8 dependency on base claim 24. Applicant respectfully requests that the §103
9 rejection of claim 26-28 be withdrawn.

10 **Dependent claims 36-41** are allowable at least by virtue of their
11 dependency on base claim 35. Applicant respectfully requests that the §103
12 rejection of claim 36-41 be withdrawn.

13
14 Claims 16 and 17 are rejected under 35 U.S.C. §103(a) as being
15 unpatentable over U.S. Patent 6,614,914 to Rhoads et al (Rhoads 914) in view of
16 U.S. Patent 5,745,604 to Rhoads (Rhoads 604). Applicant respectfully traverses
17 the rejection.

18 **Independent claim 16** recites "A method for imposing a covert message
19 into a watermark, the method comprising:

20 generating multiple watermarks;

21 assigning each of the multiple watermarks to each of [[the]] possible
22 discrete values for at least a portion of the covert message;

23 selecting a watermark that corresponds to an actual discrete value of
24 at least a specific portion of the covert message;
25

1 without encoding any portion of the covert message itself into a
2 digital signal, encoding the selected watermark into the digital signal.

3 The combination of Rhoads 914 and Rhoads 604 fails to teach or suggest
4 the method of claim 16. As discussed above, the watermark signals of Rhoads 914
5 fails to teach or suggest the watermark signal and covert signal as recited by the
6 claims.

7 The Action argues that the element "assigning each of the multiple
8 watermarks to each of the possible discrete values for at least a portion of the
9 covert message" is taught by Rhoads 914 at column 9, line 35 through column 10,
10 line 28; column 10, line 28 through column 11, line 38; and column 6, line 50
11 through column 8. The cited sections and Rhoads 914 in general do not teach or
12 suggest this element. As discussed above, the embedder taught by Rhoads merely
13 receives and combines an input signal, watermark message, and control or raw
14 bits. There is no specific teaching that the control or raw bits (i.e., "covert
15 message" argued by the Action), or values of the control or raw bits, are assigned
16 to the watermarks as particularly recited by claim 16.

17 The Action further argues that cited sections above that teach the element of
18 "assigning ..." also teach the element "selecting a watermark corresponding to an
19 actual discrete value of a specific portion of a covert message"; however, there is
20 no such teaching or suggestion. As discussed, the control or raw bits (i.e., values
21 of the bits) taught in Rhoads are not assigned to multiple watermarks, therefore
22 there cannot be a selecting a watermark that corresponds to a portion of the covert
23 message (i.e., control or raw bits) as recited in claim 16.

24 Rhoads 604 is cited as teaching "generating multiple watermarks wherein
25 the size of covert message with N bits long resulting into 2^N multiple watermarks";

1 however, Rhoads 604 provides no assistance in light of Rhoads 914 as to the
2 recited method of claim 16.

3 In view of the above, Rhoads 914 in view of Rhoads 604 does not teach or
4 suggest each and every element of claim 16. Thus, claim 16 is not obvious over
5 the cited combination. Applicant respectfully requests that the §103 rejection of
6 claim 16 be withdrawn.

7 **Dependent claim 17** is allowable at least by virtue of its dependency on
8 base claim 16. Applicant respectfully requests that the §103 rejection of claim 17
9 be withdrawn.

1 **CONCLUSION**

2 All pending claims 1, 4-9, 12-22, 24, 26-28, and 35-42 are in condition for
3 allowance. Applicant respectfully requests reconsideration and prompt issuance of
4 the subject application. If any issues remain that prevent issuance of this
5 application, the Examiner is urged to contact the undersigned attorney before
6 issuing a subsequent Action.

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8 Respectfully Submitted,

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